Abstract Of The Disclosure

A method of adjusting or locally modifying the direction of magnetization of a ferromagnetic layer in a magnetoresistive layer system using a heat stamp is described, the ferromagnetic layer being stabilized over an antiferromagnetic layer. The antiferromagnetic layer is heated, using a heat stamp, over a threshold temperature, above which the influence of this layer on the direction of magnetization of the adjacent ferromagnetic layer disappears; subsequently, the ferromagnetic layer is exposed to an external magnetic field of a predefined direction, and finally the antiferromagnetic layer is cooled again below the threshold temperature. In addition, a heat stamp having a base body and a heatable stamp structure connected to the base body and matching the dimensions of or similar to the magnetoresistive layer system is described. The heat stamp and the method described are suitable in particular for manufacturing a magnetoresistive layer system operating by the spin valve principle, which has a plurality of magnetoresistive layer systems having at least partially different resulting directions of magnetization in the particular layers, the magnetoresistive layer systems being interconnected in the form of a Wheatstone bridge in particular.